of mLL2 comprise CDR1 comprising amino acids 31 to 35 of SEQ ID NO: 4, CDR2 comprising amino acids 50 to 66 of SEQ ID NO: 4 and CDR3 comprising 99 to 105 of SEQ ID NO: 4; or

b) the light chain variable region of SEQ ID NO:2 and the heavy chain variable region of SEQ ID NO:4.

26. (New) The mAb or fragment thereof of claim 25, wherein said mAb is murine LL2 monoclonal antibody.

27. (New) An isolated polynucleotide encoding the amino acid sequence of LL2 mAb of claim 25.

28. (New) An expression vector comprising the polynucleotide of claim 27.

29. (New) An isolated light chain variable region of the mLL2 mAb comprising the amino acid sequence of SEQ ID NO: 2.

30. (New) An isolated polynucleotide encoding the amino acid sequence of said light chain variable region of claim 29.

31. (New) An expression vector comprising the polynucleotide of claim 30.

32. (New) An isolated heavy chain variable region of the mLL2 mAb comprising the amino acid sequence of SEQ ID NO: 4.

33. (New) An isolated polynucleotide encoding the amino acid sequence of said heavy chain variable region of claim 32.

34. (New) An expression vector comprising the polynucleotide of claim 33.

35. (New) A set of complementarity-determining regions (CDRs) of the mouse LL2 (mLL2) monoclonal antibody (mAb), which define the antigen binding region of said mLL2 mAb, comprising amino acids 24 to 40 of SEQ ID NO: 2, amino acids 56 to 62 of SEQ ID NO: 2, amino acids 95 to 103 of SEQ ID NO: 2, 31 to 35 of SEQ ID NO:4, amino acids 50 to 66 of SEQ ID NO: 4 and amino acids 99 to 105 of SEQ ID NO: 4.

36. (New) An isolated polynucleotide encoding the CDRs of claim 35.

37. (New) An expression vector comprising the DNA sequence of claim 36.

38. (New) A B-lymphoma cell and leukemia cell targeting diagnostic or therapeutic conjugate, comprising:

(i) a humanized LL2 (hLL2) monocolonal antibody (mAb) or fragement thereof comprising the complementarity-determining regions (CDRs) of mouse LL2 (mLL2) and the framework (FR) regions of the light and heavy chain variable regions of a human antibody and the light and heavy chain constant regions of a human antibody, wherein said hLL2 mAb or fragment thereof retains substantially the B-lymphoma cell and leukemia cell targeting and cell internalization characteristics of said mLL2 mAb, and wherein said hLL2 mAb or fragment thereof is less immunogenic in a human subject than is said mLL2 mAb, wherein the CDRs of the light chain variable region of mLL2 comprise CDR1 comprising amino acids 24 to 40 of SEQ ID NO: 2, CDR2 comprising amino acids 56 to 62 of SEQ ID NO: 2 and CDR3 comprising 95 to 103 of SEQ ID NO: 2 and the CDRs of the heavy chain variable region of mLL2 comprise CDR1 comprising amino acids 31 to 35 of SEQ ID NO: 4, CDR2 comprising amino acids 50 to 66 of SEQ ID NO: 4 and CDR3 comprising 99 to 105 of SEQ ID NO: 4; or

(ii) a chimeric LL2 (cLL2) monoclonal antibody, (mAb) or fragment thereof comprising the light and heavy chain variable regions of mouse LL2 (mLL2) and the light and heavy chain constant regions of a human antibody, wherein said cLL2 mAb retains substantially the B-lymphoma cell and leukemia cell targeting and cell internalization characteristics of said mLL2 mAb, and wherein said cLL2 mAb is less immunogenic in a

human subject than is said mLL2 mAb, wherein said cLL2 comprises the light chain variable region of SEQ ID NO:2 and the heavy chain variable regions of SEQ ID NO:4, wherein said hLL2 mAb or said cLL2 is bound to a chemotherapeutic drug or a chelator.

39. (New) The conjugate of claim 38, wherein said chemotherapeutic drug is selected from the group consisting of doxorubicin, methotrexate and taxol.

40. (New) The conjugate of claim 38, wherein said chelator is a chelator by which a diagnostic or a therapeutic metal ion can be complexed.

41. (New) The conjugate of claim 40, wherein said chelator is DTPA.

42. (New) The conjugate of claim 40, wherein said metal ion is a heavy metal, a paramagnetic metal ion or radionuclide.

43. (New) The conjugate of claim 42, wherein said radionuclide is selected from the group consisting of ^{90}Y, ^{131}I, ^{125}I and ^{99m}Tc.

REMARKS

Applicants have canceled claims 1-24 without prejudice or disclaimer to the subject matter recited therein, and all rights to such subject matter are expressly reserved. Applicants have added claims 25-36 in order to further define claim scope. Support for claim 25 is found on page 1, line 28 to page 4, line 4. Support for claims containing the SEQ ID NOS can be found in Figures 4A and 4B of the present specification. Support for claim 38 is found throughout the specification and particularly on page 5, lines 26-32. Support for claims 39 to 42 is found on page 9, lines 25-34 and page 38, line 2 of the present specification. Support for claim 43 to the specific radionuclides is found on page page 3, lines 4-30, page 31, lines 12-15 and page 38, line 3-5.